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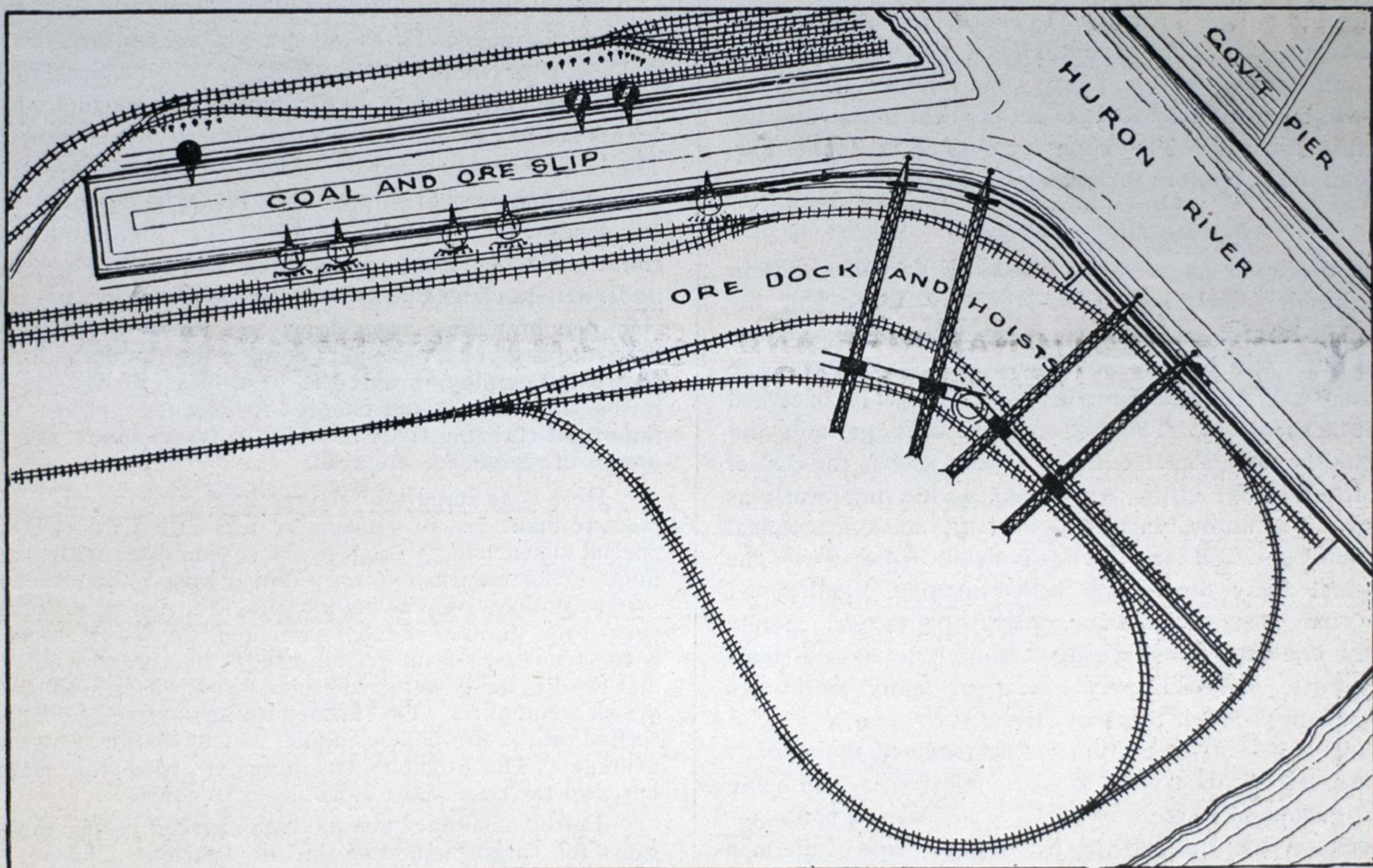
No. 15.

The Huron Dock Improvements.

The accompanying drawing, prepared by H. F. Sprague, of Huron, O., presents a rough plan of the dock improvements being made by the Huron Dock Company in connection with the Wheeling and Lake Erie Railway Company. The Wheeling and Lake Erie proposes to enter into the lake business on an enlarged scale, and it is expected to have full 1,500 feet of dock frontage, with four ore hoists and conveyors and seven revolving derricks in operation shortly after the opening of navigation. These improvements, to be finished by May 15, will give Huron a fair share of the ore business and will insure shipments of 200 to 250 cars of coal a day. The addition of 400 feet of ore dock frontage, with a circular track arrangement to facilitate the handling of

boats were placed by Cleveland brokers and it is said that one other brokerage concern has covered an equal amount of ore for outside tonnage, but there is nothing certain about this last report. There is no activity in the market, however, as ore dealers are not making sales. The ore taken by the America and Brazil is a portion of the small amount sold a few weeks ago. It is confidently expected that furnacemen will come into the market within the next week or ten days, when something more definite can be said regarding freight contracts. Nothing has been done in Escanaba freights, but 80 cents is spoken of as a rate. Such vessel owners as Mr. Bradley, and in fact all of the brokers, say they want nothing to do with dollar ore from Lake Superior.

Boats at Ohio ports desiring coal cargoes find no trouble in getting them at 50 cents to Lake Superior and 55 cents to Milwaukee. The endeavor to get coal aboard vessels before



DOCK IMPROVEMENTS AT HURON.

cars, is the most important feature of the work. The ore hoists and conveyors, one of which is already in position, are of Hulett pattern, made by the McMyler Manufacturing Company, of Cleveland. The new storage dock will be easily maintained, as it requires no piling or foundation, being built on a firm sand bottom. Three of the revolving derricks for handling coal will be placed on the west side of the slip and four on the east side as shown in the drawing. There will be sufficient water for the largest class of boats, as the river will have 17 feet and the slip will be dredged to 18 feet, on account of the tendency to fill up with sand. The track system will be complete in every way, and the harbor will undoubtedly be among the best on the lakes. Work on the extension of piers and deepening of both channels will go on immediately.

The Freight Outlook.

The steamers America and Brazil, of Buffalo, are under contract to carry 25,000 tons of ore from Ashland during the season, the work being divided so as to cover a certain amount each month, after the plan usually followed with such contracts. The

May 1, has caused Cleveland shippers to seek tonnage in Buffalo and they will probably get a limited amount to load at Ohio ports. Advices from Buffalo are to the effect that a few boats have been loaded but no rates made as yet. The hard coal shippers talk of 40 cents to Lake Superior and 55 cents to Chicago and Milwaukee. It is not probable that they will get a great deal of tonnage at the former rate, so long as the prospects of a strike of miners causes the present demand to continue at Ohio ports. Coal shippers do not want boats to move early and there is every reason to expect that the "hold off" scheme will be carried out, as natural conditions are against an opening of the Straits until the last days of the present month. It is now generally conceded that there will be no coal at Milwaukee or Chicago when navigation opens, and Capt. McDougall and others from the head of Lake Superior say there will be not more than 100,000 tons of coal of all kinds in that district. The supply of grain at the head of the lakes as well as in Chicago is very light and there is little hope of profitable rates. Grain under charter at the head of the lakes would probably aggregate 500,000 to 600,000 bushels.

Lake Michigan Improvements.

Improvements will be made this season in the harbors of Charlevoix, Frankfort, Portage Lake, Manistee, Ludington, Pentwater, White River, Muskegon, Grand Haven, Black Lake, South Haven, St. Joseph, Benton Harbor and Michigan City, ports on the east shore of Lake Michigan, under charge of Col. William Ludlow, and the work will be directed from the government engineer's office, Grand Rapids. At Charlevoix the channel will be dredged, and the piers and revetments will be repaired. At Frankfort the piers will be repaired and strengthened, sand fences will be erected, and the revetments put into shape, all requiring a great amount of pile driving. The Portage Lake harbor will be dredged and the piers strengthened. At Manistee the north pier will be extended 200 feet, the channel will be deepened, and the work will all be done by contract. The Ludington harbor will be dredged. The improvement at Pentwater will be repairs, piers and revetments. Into the White river harbor, the outlet for Montague and Whitehall, much sheet piling will be put, a piling in which heavy sawed boards are used as well as round logs, the better to shut out the sand. At Muskegon the old north pier will be torn out and 320 feet of new crib work put in. The north revetments will be extended by sheet piling 1,000 feet toward Muskegon lake. At Grand Haven three 50-foot cribs will be put into each of the two piers. The inner end of the north pier will be extended by 1,500 feet of sheet piling, and the channel will be dredged. The improvements at the other harbors will be in the nature of repairs and dredging.

Private Steam Yachts.

Two of the handsomest steam yachts on the lakes were in the Cleveland dry dock last week—the Say When and the Winifred. The former was the work of the Herreshoffs and the hull of the latter was built in Brooklyn while the engines were built by Clough & Witt, and as far as being economical is concerned they cannot be surpassed. The fuel costs five cents per mile and in three years the repairs have cost \$5. About \$200 is the cost of fitting out the Winifred in the spring, making her practically as good as new. "A steam yacht is one of the most economical luxuries" said Capt. Williams "if she is handled properly. The trouble is that many owners are levied upon for about 50 per cent. more than costs business boats for supplies, etc., merely because any one considered wealthy enough to have a steam yacht is regarded as lawful prey. A great many more men would own steam yachts if this was corrected."

In many cases this condition is the result of the owner's extravagance, telling his captain to spare no expense, and being dissatisfied if common material is used. A new coat of paint was being spread on the hull of the Say When. One of the men remarked the quality of it, saying that it was worth \$4 per pound and the varnish that was used to mix it was \$4 per gallon.

There are quite a number of steam yachts building on the lakes. One is nearly completed at East Saginaw for Isaac Bearinger, and the Chicago Ship Building Company has one on the stocks for Mr. Porter of the Illinois Steel Company. The yacht building for J. H. Wade at the Cleveland Ship Building Company's yard, will no doubt surpass anything on the lakes. It is pretty certain that another wealthy Cleveland gentleman will place an order for a steel steam yacht within the present year.

A Daring Trip on Lake Michigan.

Moritz Zimmerman has been held at Milwaukee to trial in Michigan federal court on charge of having stolen the propeller Dewart, half interest of which he claims. Application has been made to bring the case before another court. The interest of the case centers in the experience Zimmerman had in obtaining possession of the steamer. The owner of the other half was

in possession of the Dewart and ran her into Frankfort harbor one night. Zimmerman watched an opportunity when every one had left, and getting up steam ran the boat out in the lake. Just how he steered her out of the harbor and managed the engine at the same time no one knows, but after getting outside the piers he lashed the wheel, darkened the windows and paid most of his attention to firing up, and running the engine, going to the wheel-house occasionally to unlash the wheel and alter his course. The chances of being run down by other craft led him to the conclusion that he had better display a light after he was out of reach of pursuers. As he was lowering the lantern from the spar the rope broke and it fell, striking him on the head and knocking him senseless. Here was a steamer running at full speed in mid-lake without a light displayed and the only man aboard lying senseless on the deck. In course of a half hour he revived and the next morning put into Sturgeon Bay, where the boat was turned over to the sheriff, who took her to Milwaukee. Previous to September there was no law under which Zimmerman could be prosecuted, but a recent act of congress provides prosecution for taking a boat while on a voyage. The Dewart is valued at \$7,000, and has been used in the passenger trade.

Insurance Matters.

There will be little if any change from last year in cargo insurance charges, as far as ore and coal are concerned. The general agents of companies engaged in this business on the lakes have made preparations for it and their instructions to local agents are to charge last season's rates, 20 to 22½ cents per \$100. The business is covered by "blanket" policies or contracts that cover the business of shippers for the entire season. If there is any shading of these rates it will be very light and only on account of the depressed condition of the lake trade generally, as underwriters claim that severe competition in this line of late years has brought charges down to a very low basis. The 20-cent rate is given to shippers doing a big business in either coal or ore and employing only the best class of vessels with star rating while the greater charge, 22½ cents, applies to the less important carrying trade in which canal schooners and the poorer grades of vessels are engaged.

Here is an important change in the hull tariff. "For agreement to make loss or damage by fire settled under conditions of special clause add 75 cents to the season rate, with pro rata deductions for months expired. This clause to be attached to such marine policies only as include the fire risk. A rebate of 25 cents to be allowed if risk terminates Nov. 30, at noon." This is to save vessels from getting caught in the way the Roanoke and the Reynolds were, where cargo was sacrificed to save the vessel when afire. The former rulings obliged such losses to be settled on the fire policies alone, which do not recognize general average. The Reynolds has already settled the claim against her, and the case of the Roanoke is in court.

Detroit insurance agents have agreed upon the following rates for cargo insurance out of Detroit. The rates are for straight A vessels and twenty-five cents will be added for A 2½ vessels:

	Steam.	Sail.
To Cleveland.....	20	30
To Buffalo.....	30	40
To Lake Ontario.....	40	50
To Ogdensburg	45	60
To Montreal	70	90

At a meeting of the marine underwriters at Chicago, Monday, the following trip rates on grain were adopted and are now in effect: To ports on Lake Michigan, 25 cents; to points on Lake Superior, 40 cents; to Huron, Sarnia and Detroit river, 25 cents; to Georgian bay, 30 cents; to Lake Erie, 30 cents; to Lake Ontario, 40 cents; to Ogdensburg, 40 cents; to Montreal, 60 cents.

A recent issue of the Richmond Dispatch contains an illustrated article and description of the industries built up along the line of the Norfolk & Western Railway. As a promoter of industries along its line that company takes the lead, if indeed, it is not first in that field of enterprise. Address the Vice-President, Norfolk & Western Ry., Roanoke, Va., for a copy of the paper mentioned.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland Iron Mining Company.....	\$ 25 00	\$ 15 00	\$ 16 00
Champion Iron Company.....	25 00	90 00	100 00
Chandler Iron Company.....	25 00	39 00	40 00
Chicago and Minnesota Ore Company.....	100 00	.....	110 00
Iron Cliffs Iron Company.....	50 00	.....	120 00
Jackson Iron Company.....	25 00	90 00	100 00
Lake Superior Iron Company.....	25 00	65 00	68 00
Minnesota Iron Company.....	100 00	68 00	70 00
Pittsburg Lake Angeline Iron Co	25 00	145 00	.....
Republic Iron Company.....	25 00	27 00	29 00
Michigamme.....	25 00	8 50	10 00

The market for iron mining shares shows some improvement in accordance with a better feeling in the iron market generally. There is, at least, more trading, the movement in stocks during the past week being quite active. Prices have not changed noticeably and no great reaction is expected but there is some encouragement even in a light exchange of stocks to holders of these securities when the depression of the past several months is considered. Were it not for the competition of southern iron and the labor troubles in the districts using Lake Superior ore, it is probable that some interest would be shown by the owners of the older mines and investors generally in the new ore fields of Minnesota, where a great deal of new work is being carried on with promising results, especially on the Mesaba range. Under prevailing conditions a little ore may be shipped from the Mallman, Stone and a few other properties of this district, to which railway facilities are promised shortly, but any important developments must await better surroundings in the general iron market.

It is announced that T. D. Ledyard, of railway fame, has leased his Belmont iron mine, of the Lake Ontario Canadian district, to New York parties who intend to build a railway into the mine from the Canadian Pacific Railway which is about six miles distant. A diamond drill is now testing the property to show the depth of ore. Mr. Ledyard claims to have a good mine but the great trouble in this district has been in the mixture of sulphur with the ore. The ore is also very lean.

Newcastle Iron Mining Company is the name of a new Duluth corporation with a capital of \$250,000 and indebtedness limited to \$25,000. The officers are: A. E. Humphreys, president; T. H. Pressnell, vice-president; James A. Boggs, secretary, and Frank I. Tedford, treasurer.

The big Norrie mine has about 200,000 tons of ore in stock. The Norrie has a double royalty to pay upon its product and must send out a large amount of ore in order to make a reasonable profit.

Excelsior Marine Benevolent Association.

Following the remarks of Congressman Burton, at a recent meeting of the Cleveland lodge, Excelsior Marine Benevolent Association, Capt. William Mack called attention to the efforts of the lake masters to secure a distinctive fog signal and also referred to their desire for a uniform system of steering. He explained that the recommendation of the Cleveland captains that all vessels be compelled to steer with straight chains, as well as a unanimous request from masters all over the lakes that the three whistles now used in a fog to indicate that the steamer giving such a signal has a tow, be used as a fog signal on all steamers whether having a tow or running alone, had been referred to the Lake Carriers' Association. The Lake Carriers' Association was slow in taking action on the question of uniform steering, he explained further, and had not even considered the matter of making a difference between the one blast used as a porting signal as well as a fog signal by steamers running without a tow. He was desirous of knowing whether the settlement of such matters belonged to congress or the board of supervising inspectors of steam vessels, and Mr. Burton answered that, while congress might take action in this regard, any measure of the

kind in view would be referred by congress to the supervising inspectors and the preferable course would be to apply direct to the supervisors. Mr. Burton added that the board controlling the inspection service is a conservative body but would undoubtedly give such important questions the consideration due them if the opinions of the lake masters are properly presented before the annual meeting in January of next year. The captains have already had a similar assurance from Gen. Dumont in his prompt decision regarding bells and whistles in connection with the "strong" signal and his request that a change be applied for if the signals are not suitable to the majority. They have profited by this decision and all of them who are desirous of living up to the law will blow the long whistle and not four short ones for a "strong" signal when they have no bell in the engine room. It is hardly probable that they will ask for any change in the rules, as the decision has set matters right and the long whistle will answer every purpose where there is no gong in the engine room. The same course of application to the inspectors can be pursued regarding the proposed change in the fog signal without awaiting action on the part of the owners, and, if the wheel chain question must be left to further action on the part of the Lake Carriers' Association, it only remains for the captains to urge a settlement of it before the annual meeting of the supervising inspectors in January next. In the meantime it would certainly seem advisable that application be made as soon as possible by all branches of the E. M. B. A. on the lakes for the change in the fog signal, as the period of time between the laying up of boats next fall and the meeting of the inspectors in January will hardly be sufficient to permit of action.

President Alexander Clark, of the grand lodge, organized branch No. 7 at Detroit, Thursday, and was assisted in the work by Capt. M. Niland, of Buffalo. Officers of the new lodge are: George McCullough, president; Charles L. Wilson, first vice-president; Albert E. Stewart, second vice-president; John Edwards, treasurer; John C. Shaw, financial secretary; George M. Dennis, marshal; Charles H. Bassett, warden; George Manning, sentinel; S. A. Whipple, chaplain. Among the members are: George McCullough, John C. Shaw, John Edwards, S. Arca Whipple, John Dover, Maurice Bartlett, Charles M. McIntosh, P. C. Bassett, Albert C. Stewart, George Manning, John Buie, Frank G. Stewart, J. M. Jones, Jr., William Roach, B. C. Chamberlin, A. J. Huntoon, George King, Henry Berlin, Charles L. Wilson, George Dayton, George M. Dennis, Charles Words, Dugald McLachlan, Robert Moore, J. R. Innes, Edward Lahr, Charles H. Bassett, Sidney J. Miller, Herbert A. Hickmott, Frank J. Miner, Martin O'Toole, William Rolds, David Wilson, Lewis Leonard, Arthur J. Fox, Arthur Meiklehan, Robert N. Bailey, Patrick Sexton, Edward Tormey, Shepherd H. Currie, C. F. Moore, Alex Ruelle, Jr. and William King. The members number fifty-five. There will be as much rivalry over members between Detroit and Milwaukee as there is between Cleveland and Buffalo.

Captains Woodruff, Peterson, Brock and Trinter were admitted to full membership in the Cleveland lodge last week. Captains Holmes and Brown were appointed a committee to draft resolutions to be sent to the Canadian minister of marine asking that a buoy be placed on Point au Pelee passage shoal.

Hugh Clark was initiated into the Milwaukee lodge last week and M. U. Gotham, Frank Brown and Timothy Kelly were elected members.

The Postal Bill and Ship Building.

It is probable that the passage of the postal bill will result in increasing the output of the shipyards to a much greater extent than was anticipated. It is given out that the Spreckels will invest \$5,000,000 in new ships which will be placed in the Australian trade. This amount would represent twenty first class steamships and would look more like business if it was divided, but no doubt Pacific coast shipyards will be filled for a year or two to come. It is also stated that Gould will invest in enough floating property to carry the mails from San Francisco to China. The Plant Investment Company and most all the steamship lines of this country have asked the postmaster general for requirements and specifications of ships that will meet the conditions demanded that will entitle them to the mail carrying subsidies. With Atlantic coast yards pretty well filled and the prospect of a heavy demand from the Pacific coast yards, the probability of lake yards being called upon to furnish some of these steamers may be considered.

Mr. Wisner's Assumptions.

TO THE MARINE REVIEW: I shall assume in writing this article, two things: First, that you had no personal interest in the Ohio-Siberia-Mather and Wilhelm cases and, second, that the article in this week's REVIEW under the head of "The Demand for Arbitration" was instigated by some one who had a common interest in them. It has long been the recognized right of the defeated party and counsel to seek consolation in damning the court, but it is rare indeed that either is afforded the editor's space in the public press, to announce the curse, and thus shield the name of the fault finder.

To vessel men here, the article is amusing, as based upon that temporary feeling which results from disappointed expectations, and naturally, the failure of the combination between the Ohio and Siberia, to make a 'sucker' of the Mather in that case, supported strongly as it was, by those master experts, who I imagine, are the same whose "storm of disapproval at the light manner in which the court dealt with the question of 'suction,' has been shown all around the lakes," would cause intense disappointment, ample to induce the author of your article to declare himself in such strong terms.

But why so vicious a criticism? The attempt was made by that combination to impose upon the court, (not very familiar with nautical matters), the foolish theory and claim that the little Mather, by means of some unknown, supernatural and extravagant power, seized upon the larger Siberia, and projected her at the Ohio, like a rifle ball at the bullseye, and with such irresistible force that neither the Siberia could change her path of flight, nor could the Ohio get out of her way. No disinterested man believed nor could believe in such nonsense, not one of its advocates ever heard of such a thing happening in those waters before, and the attempt failed; hence, the wounded feelings and the suggestion of "The Demand for Arbitration." "Cleveland suction" has been a common expression here since the decision in the Devereux case, and the peculiar quality of that force is recognized as such. No criticism seems to have been made through your paper, of that decision, although it was more than a surprise to vessel men outside of Cleveland, and the theory upon which it found support, had but a short time before been repudiated by Judge Brown, assisted by two able and experienced nautical gentlemen. Perhaps those disappointed by Judge Hammond, were pleased at the result of the Devereux case?

The "suction theory," an irresistible influence exerted by the displacement of a vessel passing through the water, upon another in her vicinity, is only new to the navigators of our lakes, not known at all to the salt water mariner. It is true there was, in 1887, a collision between the large steamer City of Brocton and a tug, just outside of Sandy Hook, which was attributed to the suction of the large steamer, yet it was found necessary to send here for expert sailor witnesses, to establish the theory, and then it was shown that the sucking vessel drew the tug into the large steamer, instead of projecting it at some innocent craft at a distance away. In past times when ships were square rigged, it was usual to cock-bill yards, that they should not be interfered with while the ships were passing each other, in certain localities—then there was no fear of suction. In the exercise of admiralty jurisprudence for a hundred years in England and America, the reports fail to furnish us a case wherein the court has accepted any such theory as the cause of collision. Is't not, for the present, safer then, "to check," and indeed "stop and reverse" this inclination to damn the court for not readily adopting this "suction" theory as the cause of the sheering of vessels when in the neighborhood of others, when there exists that easy, common and well known cause, "bad steering?"

Let our vessels employ as wheelmen, able-bodied seamen who know the difference between the wheel in the pilot-house and the helm of the ship,—and to which, the master refers when he orders "port" or "starboard"—instead of young and inexperienced men, who know nothing of those things, and are as likely to put the wheel over the wrong way as the right way; or if they must be employed, then let the wheel chains be crossed, and the boy made to understand that "port" or "starboard" in all cases, means the pilot-house wheel, and there will be fewer cases of collision when it will be necessary to attempt to apply the suction theory, and saddle the consequences of the wheelman's mistake upon some other vessel. What has been said is to be applied to open waters such as Mud lake; not to narrow channels confined by banks or piers.

It was not the court's want of faith in this foolish theory of "suction," however, that broke the Ohio-Siberia combination and condemned them. It was the admissions of their respective masters that when the Mather, by her suction, had put them on crossing courses, involving risk of collision, neither obeyed the law by stopping or even attempting to stop her headway. Everybody knows that two steamers stopped, can not come into collision, and everybody knows that to stop them the first thing to do, is attempt it. The law says they must stop and reverse if necessary, but if the attempt is made in good faith and in a proper way, though unsuccessful to prevent the collision, the attempt is accepted as a compliance. Still the attempt is imperatively demanded, and if not made, nothing short of demonstrative proof that it would not have prevented the collision will save condemnation. Neither the Ohio nor Siberia made the attempt, nor offered that proof. What logical basis is there then for criticising the application of the rule to them under these circumstances? The combination was so strong against the Mather it was short of sufficient energy to protect its constituents.

The decision of the Wilhelm case has met with universal commendation here, as right, and your author has so clearly shown nothing upon which to base his criticism of that but sad disappointment that it is really amusing. He is in error, however, when he states the court admitted that the storm had abated when the Wilhelm hauled out the second time off Fish point, and still attributed the parting of the tow line to the storm. The court found the storm, wind and snow, then most furious. So extravagantly numerous were the faults charged to the management of the Wilhelm by her admittedly able master, that it was really impossible to find proof enough in the cause to support any one of them. It seems to me clear that in the decisions of these cases can not yet be found sufficient reasons for abandoning our courts, presided over by honest, unbiased men, at least, and with rules of regular procedure and ample power to execute their orders and keep witnesses somewhere near the path of truth, and resorting to the uncertain and irresponsible tribunals of arbitration, having no power except to defeat the other fellow, and where the only rule of law is likely to be of the quality used during reigns-of-terror—"vae-victis," the loser must pay. No one proposes a resort to arbitration of a collision case unless he fears the searching procedure of a court and hopes for some advantage over his opponent. H. C. WISNER.

Detroit, Mich., April 4th, 1891.

In this letter Mr. Wisner goes far beyond anything that was warranted by the circumstances surrounding the criticism of Judge Hammond's decision that appeared a week ago, and his assumption that the columns of this journal have been spuriously used in the interest of anyone connected with either the Ohio or the Siberia might be treated more seriously were it not plain to disinterested readers that he has overreached his own knowledge of the difficulties attending lake navigation, and especially the danger of passing in narrow and shallow channels. Vessel owners and vessel masters in all sections of the lakes have held meetings and formulated rules to obviate the very danger which a judge from Tennessee tells them does not exist. There is nothing of the kind, he says, or else they are grossly exaggerating it, and it was regarding this strange feature of the ruling of the court that the MARINE REVIEW gave expression to the adverse comment from parties who had been in attendance at the trial and many others who had read the decision. So far from this criticism being inspired by parties interested in either the Ohio or Siberia, it would seem hardly necessary to do more than refer Mr. Wisner to the disapproval shown by leading vessel owners and navigators in his own city who were quoted in the newspapers. One of the leading questions discussed at the last annual meeting of the Lake Carriers' Association was the force and danger of suction; the Excelsior Marine Benevolent Association, an organization of lake masters, took up the same subject and prepared a set of rules to govern its members, and the managers of big steamboat lines, such as the Mutual and Menominee companies, issued orders to their masters covering the same ground long before the collision in question occurred. It is not strange that Judge Hammond's decision as far as it relates to the matter of suction has been criticised accordingly. Neither the owner nor the proctor for the Ohio resides in Cleveland and we regret that we could not conveniently obtain from them an opinion regarding this extraordinary letter from Mr. Wisner.

As a matter of courtesy the foregoing communication was shown to Mr. R. R. Rhodes in order that if he desired to reply, it might appear in the same issue. Mr. Rhodes said he thought the article would not require any answer, appearing as it would in a paper read largely by people familiar with marine matters. He was indignant at the charge that there was a combination between the Ohio and Siberia and thought the letter, like Mr. Wisner's argument, so far as it attempted to state facts simply misstated. Mr. Rhodes said there was no combination and to charge one is, under the circumstances of the trial, gratuitously false. Mr. Wisner did try by a little sharp practice to transfer the fight to the Ohio and Siberia, so that the Mather might have slipped out and, failing in that, he sought by every means, in season and out of season, to prejudice the court by talking about a combination, and that in this article he seems to be snarling yet about it. If Mr. Wisner seeks to advertise himself to the lake marine, Mr. Rhodes thinks it well that he should do so in his true colors, as claiming that there is no such force as suction between passing vessels, that arbitration is unwise, that crossed chains should be used, that our wheelmen are generally incompetent, and, as apparently claiming, that our masters do not know or do not regard the rules of navigation.

The article was also shown to Mr. Goulder, who was proctor for the Siberia and an opportunity given him to reply. Mr. Goulder said that he did not care to reply, first, because to any man familiar with the subjects touched upon, the communication shows the writer of it to be either ignorant of the knowledge and experience of our lake navigators, in the matter of suction, cross chains, steering, etc., or else wilfully reckless in his statement; and second, because he does not want to and will not be drawn into a newspaper controversy about a decision which is to be appealed from, especially with a man who will write such an article as the one in question. Mr. Goulder added, however, that as to the alleged combination there was none, in fact, "and no one knows it better than Wisner himself." "But," he added, "Wisner gets cross some times and does not get over it like the rest of us, and, as any man when angry may do, Mr. Wisner has written a foolish letter which will probably give him more regret than satisfaction."

The Greatest Grain Carrier on the Lakes.

The Western Reserve, P. G. Minch's new steel steamer, has just received a cargo of wheat and corn at Chicago that entitles her to be called the greatest grain carrier on the lakes. The cargo consists of 52,900 bushels of wheat and 56,250 bushels of corn. The wheat being equal to 56,678 bushels corn, the cargo is equivalent to 112,928 bushels of corn, or 3,162 tons. The America held the supremacy as a grain carrier at the end of last season, having carried 111,507 bushels of corn from Chicago to Buffalo. The Western Reserve is drawing 14 feet 10 inches aft and 15 feet 2 inches forward, making about 15 feet 1 inch on an even keel when she has received her fuel. According to her displacement computations she would carry 3,115 tons on that draft.

The Western Reserve was built by the Cleveland Ship Building Company, and is the largest steel vessel built in Cleveland. Her dimensions are 318 feet over all, 300 feet keel, 41 feet beam and 25 feet from top of keel to top of spar deck.

Another Light-House Tender for the Lakes.

In this issue of the REVIEW is an advertisement from the light-house board, calling attention to bids for the construction of the light-house tender Amaranth. Plans, specifications and other information will be furnished to lake ship builders on application to D. B. Harmony, chairman of the light-house board. The appropriation for this boat is \$75,000 and was made by the last congress. She will be used in the ninth and eleventh districts.

A Basis for Arbitration.

Mr. Harvey H. Brown, of Cleveland, owner of the steamship Castalia, and Messrs. Firth and Evans, of the Erie and Western Transportation Company, owners of the propeller Winslow, are all active members of the Lake Carriers' Association who prefer arbitration to court methods of settling losses, and they have set an example in the present movement toward abandoning the federal courts. A collision occurred June 25 in the Detroit river, near Sandwich, between the steamers Winslow and Castalia. A suit was brought, the Winslow claiming \$9,000 and the Castalia \$4,500 damages. Both parties agreed to arbitrate. Mr. Brown selected Capt. H. A. Hawgood, of Cleveland, and the Western company selected Capt. William D. Robinson, of Buffalo. Capt. Marion F. Tinney, of Detroit, was called in by the arbitrators as a third party and the case was heard in one of the parlors of the Russell house, Detroit, Harvey D. Goulder, of Cleveland, appearing as proctor for the Castalia and Charles Kremer, of Chicago, for the Winslow. The arbitrators united in finding the Winslow solely in fault and the Castalia blameless. The decision will undoubtedly be accepted by Messrs. Firth and Evans who were very earnest in supporting the arbitration movement at the last annual meeting of the Lake Carriers' Association.

Cregier Manipulates Chicago River.

Special Correspondence to the MARINE REVIEW.

CHICAGO Ill., April 9.—Mayor Cregier's pet scheme for straightening the south branch of the Chicago river for the apparent benefit of the Northern Pacific Railway continues to excite the indignation of all persons interested in the navigation of the river. Protests have come from the lumber, coal and vessel interests. Their opposition is based on the generally accepted theory that to abridge the channel is to decrease the facilities of navigation and to increase the cost thereof. This would be detrimental to the building interests and a hardship to the small consumer owing to an extra time charge that would naturally follow a contraction of the river. The first preamble to the ordinance now before the council is unusually interesting inasmuch as it seems to breathe a spirit of "tickle me, and I'll tickle you" on the part of the railway company and the mayor. The preamble reads as follows:

Whereas, the Chicago and Northern Pacific Railroad Company desires to straighten the channel of the south branch of the Chicago river in front of its property on the east and west banks of said river, between Harrison street and a point 400 feet south of the south line of Twelfth

street. The Chicago Tribune says: The first of four reasons assigned by Mayor Cregier in his message why the ordinance should be enacted is that it will secure "the straightening of the south branch of the river between Harrison and Taylor streets. The discrepancy between the wording of the ordinance preamble and that of the mayor as related to the distance sought to be straightened is apparent. The railroad company says from Harrison street to a "point 400 feet south of the south line of Twelfth street." Mr. Cregier says from Harrison to Taylor street, and he says this after asserting in the opening paragraph of his message that he has had "several conferences with the officials of the Northern Pacific Railway Company." The "pecuniary advantage to the city at large" is comprehended within the proposition of the railroad company to erect certain bridges at a cost of \$350,000. His honor fails, however, to mention the "pecuniary advantage" to the railroad company, which consists in the acquisition of nearly sixty feet of land for the entire distance, and which at a low estimate is valued at over \$2,000,000. This would leave a profit to the railroad company of over \$1,650,000, which is generally accepted as a good investment on the part of the company.

The number of clearances for Chicago freighting steamers engaged in the lumber trade have been quite large since April 1. Tuesday night, the Soper, Boyce and Thompson, handled by Holmes & Davison, cleared for Muskegon. On Thursday a fleet of five vessels steamed out of the Chicago harbor for Manistee. They were the Apprentice Boy, Julia B. Merrill, Levi and Grant, all the steamers engaged in the same traffic and the small trades are preparing to follow when the Straits are open and the water is open in Green bay. The rates on lumber, round trips to Muskegon, are \$1.25 per thousand, to Manistee \$1.50 per thousand. F. & P. M., No. 5, was the first arrival of the season. She anchored off 10th street docks, Monday.

The light-house slip at Michigan street is to be widened to 34 feet, and lengthened 300 feet. About \$12,000 will be expended in the work. The extension and widening of the slip was recently determined upon by Peter O'Connor, a forwarding agent, and the Northern Michigan Transportation Company, and when completed the slip will be used by the joint owners. The work of erecting large new warehouses on the slip is already under way.

Manistee Matters.

Special Correspondence to the MARINE REVIEW.

MANISTEE, Mich., April 9.—The steam craft of this neighborhood begins navigation for another season with improvements in most cases. The Manistee Iron Works has about finished the work of compounding the engines of the Pewaukee and Fannie Hart and the tugs Greenwich and John Smith have been rebuilt. Now that the tug Charles Williams has been sold to the government, the Canfield Towing and Wrecking Company has the only complete wrecking outfit on the east shore of Lake Michigan.

The propeller Covell has been purchased by Manistee parties and will run between Manistee and Milwaukee, carrying both freight and passengers. It is reported that the North Michigan Line will also run here this season if suitable arrangements can be made for dock room.

The Engineers and Owners.

The lake engineers who refuse to go aboard their boats at any reduction from last year in wages or help admit that the merit of their organization depends upon the present fight against the Cleveland Vessel Owners' Association and the same is true of the owners, who show united opposition. The struggle is a very earnest one and there is no certainty as yet regarding its ending. Several engineers who were brought here from Buffalo during the week were induced to go back but more are here from Detroit and other places, and the local organization realizes that a great deal depends upon the amount of outside help that can be secured, and their efforts are directed toward coping with this feature of the situation. Many of them have made big sacrifices in refusing offers for a longer season of work and other inducements. The officers of the association, on the other hand, claim that applications from outsiders are numerous and there is no need of putting engineers to work as yet. The Bradley fleet and others will be fitted out, they say, by a few men who are at work, and they announce a full line of engineers for the Menominee boats as follows: Norman, J. H. Anthony; Saxon, George W. Mason; German, John G. Winter; Briton, E. Dempsey; Grecian, W. F. Schwacofer; Roman, Dennis Sullivan.

Official Numbers and Tonnage.

Official numbers were assigned the following lake vessels by the Bureau of Navigation, W. W. Bates, commissioner, during the week ending April 4: Steam—Briton, Cleveland, tonnage, gross 2,348.43, net 1,875.23, No. 3,493; Grecian, Cleveland, tonnage, gross 2,348.43, net 1,875.23, No. 86,136; Joseph L. Colby, Buffalo, No. 76,933; Unrigged—Mackinac, Grand Haven, tonnage 238.14, No. 51,214; St. Ignace, Grand Haven, tonnage 238.14, No. 57,924; No. 109, 110 and 111, Buffalo, Nos. 53,265, 53,266 and 53,267 respectively.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, F. M. BARTON, } PROPRIETORS.

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ACTING upon the conclusion that there would be nothing doing on the lakes in April, on account of an agreement between the owners of big ore and coal carriers not to place their boats in commission before May, Superintendent Kimball, of the life saving service informs the keepers of lake stations that their men are not to be called into service until a month later than usual. This is jumping at a very unwise conclusion but it is no more than the lakes can expect at the hands of the management of this service. The excuse given is that the appropriation is nearly exhausted for the maintenance of the service for the remainder of the year. It has been so with appropriations as far as the lakes are concerned for three or four years past. Life saving stations for which appropriations have been made by congress are still wanting and now when it is again desired to cut down expenses the lakes are made to stand the loss. The whole lumber fleet will be in commission during the latter part of April and passenger boats are running everywhere. The tug Tempest went down off Cleveland harbor on Saturday last and three lives went with her. Two other members of the crew who were rescued from the ice cold water when about ready to give up in despair would certainly have been cared for speedily had the lookout and other members of the life saving crew been in service. Probably in view of this accident the Cleveland station has been ordered opened April 16.

THE visit to Detroit of Judge E. S. Hammond, of Memphis, was, of course, accompanied by reference in the papers of that city to his chances of being appointed to the United States circuit judgeship under the bill creating an appellate court, which goes into effect in July next. Judge Hammond's candidacy for the circuit bench will not receive active support from members of the bar who engage largely in admiralty cases on the lakes. He did not make a favorable impression while trying cases in which Judge Swan, of the district court of Detroit, was interested. Vessel owners as well as attorneys have reached the conclusion that his knowledge of admiralty affairs would not satisfy them in a court of final jurisdiction, and the new appellate court will have such jurisdiction over their cases. But there is little hope just now of Judge Hammond being appointed to the circuit bench. In this circuit the court will be made up of Justice Brown, Judge Jackson and a district judge not yet selected. Judge Jackson is growing old and Judge Hammond's only hope is to succeed him, as it is not probable that two southern judges will be elected to sit in the new court. The appointment from the district court should and will in all probability come from Ohio, Michigan having been provided for in the appointment of Mr. Justice Brown to the supreme bench. Judge Hammond is a southern Republican who was a confederate soldier.

COL. BROCK, chief of the bureau of statistics of the treasury department, is said to be still engaged in the work of investigating the traffic of the lakes. Col. Brock is reported as saying "that in his opinion the traffic of the lakes in 1889 amounted to more than 40,000,000 tons, instead of about 27,000,000 tons as estimated by the census department" We are inclined to agree with Col. Brock in his opinion, but it must be borne in mind that the data, which he promises to give out about a month hence, will be of no more value than the census report, no matter what figures are made to represent the total commerce of the

lakes, if it is based on returns from collectors of customs. The importance of securing the passage of some law governing the collection of statistics on the lakes is understood by the treasury department and an effort will be made in the next congress to pass a measure that will be agreeable to all concerned.

THE county authorities at Milwaukee have found a new way of worrying the managers of corporations whose vessel property is listed outside the city on account of excessive taxation. The sheriff of the county recently levied upon the office furniture of the Inter-Ocean Transportation Company, Milwaukee Steamship Company and Inter-State Transit Company, to satisfy claims for delinquent taxes assessed on personal property for state, school and county taxes. The companies refuse to pay these taxes, claiming that it included their vessels, which were already taxed in other ports where they were registered. The levy in each case was a formality taken upon advice of attorneys in order to afford the vessel owners an opportunity to file protests before the board of supervisors. The taxes were paid under this protest.

Call a Convention of Shipping Interests.

The last issue of this journal contained a letter from Gen. Poe, in which he reviews briefly, but in a very grave manner, the recent very serious leak under the cofferdam at St. Mary's Falls canal. The MARINE REVIEW has some important suggestions to make in connection with this letter. They are not entirely our own but are prompted by Cleveland vessel owners who have had years of experience in Lake Superior navigation; men who have watched the growth of northwestern commerce and the enlargement of the government works at the Sault since before the days of the first lock, and who do not desire to appear in any way doubtful of Gen. Poe's ability to cope with the present danger in this great project, but who are pleased at the frankness with which he courts criticism and assures them that suggestions will receive consideration. To begin with it can be said that some of the lake vessel owners will not enter into freight contracts for the coming season, unless the contracts contain a provision that a suspension of navigation at the Sault will not hold the vessels to any loss in completing such contracts. This conclusion has been brought about by a knowledge of the danger attending the work of excavation in the new lock pit, of which Gen. Poe says;

"From the day when the cofferdam was designed until the present, there has not been an hour, day or night, except during sleep, and sometimes not then, that I have not thought of the possibility of damage to our cofferdam. It has been the source of constant and intense anxiety, and that will not cease until we get at least the upper end of the new lock completed. I am in complete sympathy with the vessel men, and recognize, as perfectly legitimate, every criticism concerning the location of the cofferdam and the design under which the work is now being prosecuted. The only point I wish to make is that the subject of an entirely new canal was considered, and, after discussion, the present plan was adopted as being, all things considered, the more advantageous to the government and to the vessel men. We believe that we can maintain our cofferdam in its present position without any serious interference with navigation; but the difficulties and dangers surrounding the case are grave, and it would be foolish to ignore them. We hope that nothing serious will occur during the season of navigation, and that a suspension of navigation will not be rendered necessary. We feel all the more assured now that we have gotten rid of another crevice in the rock. All former leaks had their origin in similar crevices, though not so large, and they were effectually stopped."

This is certainly a serious condition of affairs and calls for action on the part of the people whose interests are so largely involved. The whole country was stirred up by a delay of a few days in the canal navigation last season. Can loss through the breaking of a valve be compared with the results of a break in the dam about which there is so much anxiety? It is suggested that representatives of the shipping interests from the different lake ports meet Gen. Poe in consultation regarding this important matter and if it must be so, and if any good can come from such a proceeding, let the dangerous work be stopped on the new lock during the season of navigation. Gen. Poe would in all probability have some important suggestions to make and the engineering department of the government would give due consideration to the deliberations of such a meeting.

Around the Lakes.

The steamer Elfin Mere will tow the Olive Jeanette this season.

A contract to deliver 10,000 cords pulp wood at Port Huron from St. Joseph's island was taken by J. S. Nisbet.

Capt. P. Dowdell, for several seasons past in the schooner Annie M. Peterson, will command the steamer James Pickands.

Ice was broken between West Superior and Duluth, Monday, and the ferry boats Superior and Duluth started running regularly.

The propeller H. B. Tuttle is getting a new boiler built in Cleveland. Her consort, the Queen City, is undergoing general repairs.

The new Wells elevator, Buffalo, will have capacity for about 500,000 bushels. A force of men is now employed on its construction.

Capt. Rhynas, for some time master of the Nyack, has been appointed master of the Moran, of Ward's line, Capt. Campau going into the Weed.

The cut of logs in the city mills of Duluth for this year is put down at 111,000,000 feet and for other mills of the district 125,000,000 feet, or a total of 236,000,000 feet.

The schooner Annie M. Peterson now hails from Oswego, and is owned by Edward Mitchell, who paid \$16,000 for her. She will be commanded by Capt. Charles Bough.

Cameron D. and Joshua W. Waterman, who owned the steamer Chenango, burned last summer in Lake Erie, have sued the Greenwich Insurance Company on a \$10,000 policy.

The Dominion government has already passed the usual order-in-council reducing the tolls on wheat and other cereals passing through the Welland and St. Clair canals to Montreal or other eastern Canadian ports.

Following are a few Port Huron appointments: United Empire, Capt. Geo. McDougall, Edward McKeen, engineer; Monarch, Capt. Ed Robertson, Jas. Brown, engineer; Schooner Aurora, Capt. Martin Mahony.

The Smith Transportation Company has been organized at West Bay City, with a capital stock of \$60,000. The incorporators are Charles J. Smith, Peter C. Smith, August Beutel and Alexander Beggs, all of West Bay City. The general offices will be in Bangor, Bay county.

The steambarge Burlington went into the Wolverine dry dock, Port Huron, to be caulked and have other repairs. She was built in Buffalo thirty-five years ago, ran from Buffalo all around the south shore of Lake Erie until she came to Monroe, when she made a bee line for Chicago.

James H. Reid, chief engineer of the steamer City of Cleveland died suddenly of heart disease at his home in Detroit, early Tuesday morning. The attack was without warning, and he died before a physician arrived. He was sixty years of age, and had been in the employ of the Detroit & Cleveland Steam Navigation Company for over twenty years.

The barge W. L. Peck was libeled at Buffalo last week on two claims—one by the Western Assurance Company, of Toronto, of \$1,760.31 and costs, and one by F. W. Wheeler & Co., of Bay City, of \$865.35 and costs. It is said the barge ran aground in 1889, and the insurance company paid the damage to a quantity of lumber which was in the cargo.

J. H. Gillett, of Marquette, has sold the tug James Fisk for \$9,000. The steamer S. C. Clarke has been sold by Henry B. Smith and others, of Bay City, to Capt. Edward Van Patten, of Montague, and William Roba and Charles Riskie, of Michigan City, for \$14,000. Capt. E. Van Patten will command her. She will run between Michigan City and Muskegon with lumber.

The Lake Seamen's Benevolent Association, the organization through which T. J. Elderkin, of Chicago, aims to unite seamen and dock laborers of all kinds on the lakes, gives out the following list of officers: Chicago-Agent, Thomas J. Elderkin; general secretary, Robert Lindholtz; delegates, Daniel Robertson and Minard Mull. Buffalo-Agent, William Thomas; delegate, Frank Stevens. Detroit-Agent, J. J. Scully. Toledo-Agent, Martin Kearns. Oswego-Agent, Alex. Skillen. Cleveland-Agent, Frank Lewis; delegate, Charles Lerau. Milwaukee-Agent, Martin Augerson, delegate, Frank Miller.

Buffalo now has five regular docks for handling ore. The Pennsylvania dock of Pickands, Mather & Co., is situated on Buffalo creek and has five McMyler hoists and ample storage room. The Buffalo Dock Company's dock on the Blackwell, controlled by H. K. Wick & Co., has six McMyler hoists and is well provided with storage capacity. The Lehigh Valley dock at the Tiff farm has three Brown hoists with immense storage capacity. The Lackwanna dock in the Erie Basin has six hoists, but no storage, the ore going directly into cars. The New York Central dock at Coit slip have two McMyler hoists and a fair amount of dock room. The dock was built last year

Maj. Amos Stickney, the United States engineer, opened bids for the further extension of the Buffalo breakwater. The specifications call for the use of about 125,760 pounds of drift bolts, 43,539 pounds of screw-bolts, 45,366 feet of white pine deck plank, 21,600 pounds of wrought iron plates, 8,700 pounds of boat-spikes, 17,000 cubic yards of stone filling, 21,600 pounds of wrought-iron straps, 747,360 feet of hemlock, 145,232 feet of white oak and 391,632 feet of white pine timber. James B. Donnelly, Oswego, the Heidenreich Company and Ira Farnsworth, Chicago, and J. S. Moore, John McGregor and McNaughton & Bapst, Buffalo, were bidders. The contract will amount to \$60,000

Work of the Ship Yards.

The steamer W. F. Sauber, building at Wheeler's Bay City yard, for Capt. John Mitchell and others, will be launched Saturday.

The steamboat which Capt. Thrall is building at Green Bay, will have capacity for about 500,000 feet of lumber and will be ready to launch early next month.

The yacht Viking, which Superintendent Kimball, of the Lake Shore Railway, has had constructed at Ashtabula, will be taken to Penobscot bay, on the coast of Maine, and will be run between Castine and Dash harbor in conjunction with the Eme-line, which was also built at Ashtabula.

R. T. Roy will be the name of the fish tug building at the head of the old river bed, Cleveland, for Jones and Roy. She is 62 feet long, 14 feet beam and 7 feet 6 inches deep. She will have a 12 x 14 Clough & Witt engine and a Trout wheel. There will be sleeping accommodations for the crew, so that no time will be lost in going to the nets. She will be the best fitted fish tug in Cleveland, and her boiler will be allowed 150 pounds steam pressure.

At the works of the Cleveland Ship Building Company the announcement of a date for launching the fourth boat of the Lake Superior company's steel fleet, the Griffin, is expected almost any time and the yacht for Mr. J. H. Wade, Jr., is well under way. The company is just completing new boilers for the propellers Pasadena and A. Everett. A pair of Scotch boilers to go to Honolulu by way of San Francisco is also a feature of its work.

It is now said, that the Milwaukee and Eastern Transit Company, the corporation recently formed to carry on a package freight business across Lake Michigan between Milwaukee, St. Joseph and Holland, will, instead of waiting for the building or purchase of boats this summer, lease a couple of steamers and begin business as soon as possible after the opening of navigation. Capts. John Griffin and James F. Trowell, of Milwaukee, are said to be engaged in preliminary work for the new company.

Masters and Engineers.

Capt. B. B. Inman, Duluth, Minn., appointments are as follows: Buffalo, Capt. Joseph Cox, John Mann, engineer; J. L. Williams, Capt. L. E. King, of Bay City, James Bishop, engineer; Record, Capt. John Hannett, Tim Leary, engineer; Carrington, Capt. Fred. Benson, Joseph Herring, engineer; Lida, Capt. Ed. Ingle, Ernest Fischer, engineer.

Capt. S. B. Grummond, Detroit, Mich.: Steamers—Flora, Capt. T. Meikleham, William Campbell, engineer; Atlantic, Capt. J. R. Jones, John Johnson, engineer. Tugs—Leviathan, Capt. J. Lafromboise, William Harling, engineer; Winslow, Capt. W. E. Tobin, J. McGregor, engineer; M. Swain, Capt. Ed. Tormey, M. J. Gilligan, engineer; William A. Moore, Capt. Ben Moshier, D. C. Bennett, engineer; Sweepstakes, Capt. T. Quinn, M. Hubbell, engineer; Crusader, Capt. Tom Carney, C. Blauvelt, engineer; Oswego, Capt. James Tobin, Charles Fero, engineer; Champion, Capt. A. Rattray, S. D. Smith, engineer; John Owen, Capt. J. N. Bailey, W. Brooks, engineer. Barge William Raynor, Capt. A. J. Young.

Cleveland Matters.

The model from which the propeller George T. Hope was made is among the marine treasures in Mitchell & Co.'s office.

The steam yacht Nautilus, brought up from the Atlantic coast by John Huntington, is being used on Lake Erie by the Ohio state fish commission.

E. R. Davis, last season chief engineer of the propeller Britannic goes into W. J. White's steam yacht Say When this season and Engineer Eddy takes the Britannic.

A letter from Ludington says that the tug Volunteer, owned by H. A. Scott, of that place, has been sold to Sheboygan parties for \$1,800. She will be used in the fish business.

Capt. George Warner has the sympathy of the vessel owners in the death of Mrs. Warner, an estimable woman. The death of Mrs. La Salle, wife of Capt. Fred La Salle, is also announced from Chicago.

W. C. Jones has libeled the tug American Eagle on a claim for \$839 for railroad ties which are said to have been lost by the carelessness of the owners of the tug in not towing them far enough within the breakwater enclosure.

At last week's meeting of the Cleveland branch of the Marine Engineers Beneficial Association resolutions fitting the death of James H. Reid, of Detroit, were adopted. Mr. Reid had seen many years of service in the employ of the Detroit & Cleveland Steam Navigation Company.

A dispatch from the Sault to Mr. B. L. Pennington says the water is not gaining. It has been about four inches lower than last year. The opening of navigation is not expected until later than last year, probably the 23rd inst. Escanaba reports teams still crossing the ice in the bay.

Capt. Alex. McDougall was in the city during the week. He says that with the completion of the ten boats now in his West Superior yard, a fleet of seventeen barges, four of which will have steam, will be in commission. Five of the boats will go down the St. Lawrence during the summer for Ocean traffic.

The first serious accident of the season occurred at Cleveland, Saturday, when the little steel tug Tempest keeled over in a sea-way and went down with three of the crew just east of the piers while trying to tow a raft up the river from within the breakwater enclosure. The captain, John Murray, and Michael Warren, a raftsman, were on deck and were saved. The drowned men were Howard W. Loomis, engineer, William Hughes, fireman and Henry Hersly, raftsman.

Capt. Louis M. Stoddard, son of Capt. Stoddard, of the propeller Progress, was to have gone as mate in the steel steamer Saxon, of the Menominee fleet this season, but he has been appointed to command the U. S. government steamer Warrington, employed in the engineering department of the light-house constructing service. Although no official announcement has been made it is probable that Capt. Scott, who has been in charge of the Warrington for a number of years, will be given command of the light-house supply steamer Marigold.

Economy in the Engine Room.

EDITORS MARINE REVIEW: The marine engineer of the present day has the subject of economy in the engine room continually confronting him. Our professional reputation is at stake in this matter and "be as economical as is consistent with safety" is about the substance of the principal order we receive from the owners. But the marine engineer is, in the majority of cases, simply an engine driver and not an engine builder or boiler maker. He must accept and do the best he can with the plant that is placed in his care, and "make no improvements, changes or alterations." It necessarily follows that an improvement on the present marine engine or boiler with a view of obtaining better results must be made by the engine builders and boiler makers, under orders from the owners and builders.

Although cargo steamers of today transport freight upon a consumption of one-half the number of tons of fuel that they used fifty years ago, still, when we see, by experiment and calculation, that over 75 per cent of the heat in our fuel is lost, we feel that the owners' attention can not be called too often to this fact. And some effort by the owner and engine and boiler builders should be made to reduce this enormous loss of heat. Not including radiation, there are two avenues of discharge of heat from a steam plant—the fuel gases and the exhaust steam. Any heat which can be intercepted at either or both of these points, and be returned to the system, is so much saved and gained. The feed water and steam super-heaters have afforded convenient vehicles for such return, and an improvement in boiler tubes, by running ribs through them, promises big results toward a direct saving in fuel by intercepting and extracting more of the heat from the fuel gases which escape up the smoke stack. These tubes are known as Serve's ribbed boiler and stay tube, and the improvement consists of a number of interior longitudinal ribs, from six to eight in each tube, the object being to get additional heating surface and to break up and force into contact with the surface of the tube, the heat which is in the fuel gases.

With the plain boiler tube now in use, the greater part of the heat is lost, that is, the outside of the gaseous stream of heat passing through the tube, only heats the surface of the tube, while the main body of the heat in the center of the stream escapes up the stack unused.

The ribs of the Serve tube do exactly what is required, to break up and open the gaseous stream and use the heat within it. The ribs penetrate it, extract the heat from it, and carry it to the surface of the tube where it is wanted. At an actual test made by Messrs. John Brown & Co., Limited, Sheffield, Eng., extending over four days, the saving in fuel by the use of these ribbed tubes averaged 12½ per cent., and in trials made by the French admiralty at Brest, the saving averaged 15 per cent with natural draft and 20 per cent with forced draft. It is officially announced by them that they are perfectly satisfied with the results of the trial. On the steamer Le Bourdon, of the Compagnie Generale de Navigation, Lyons, France, the saving was 24 per cent. These ribbed tubes are in eight more steamers of this line, also in use in the Scottish Oriental line of steamers running between Glasgow and Hong-Hong, and the Keystone line of steamers between Liverpool and Philadelphia. A steamer running out of Lyons reports after a continuous use of the ribbed tubes for two years, that no trouble was experienced in keeping the tubes clean with the usual appliances for cleaning plain tubes. It has also been proved by a severe test that the ribs of the tube never become red hot, the heat in the rib being rapidly taken up by the water surrounding the tube. This tube makes also a much better stay tube than the plain tube now in use for that purpose, for the reason that the ribs in the tube present the metal in a better form to resist either tensile or crushing strains, than would even a greater weight of metal in a plain tube. Therefore the ribbed tube can be made a stay tube without a loss of the steam generating powers of the boiler, as is the case with the plain stay tube by reason of the additional thickness of metal which they require for strength.

The fuel bill of many of our lake steamers, for the season, will amount to about \$7,000, and a saving of even 12½ per cent. would mean a saving of \$875 to her owner, not to say anything of the increased carrying capacity of his steamer by reason of his not being forced to carry so much fuel. The Serve ribbed boiler tube is manufactured in Sheffield, England, and is being introduced in this country by Charles W. Whitney, of New York, who is also introducing Purves' ribbed steel boiler furnaces, now being adopted widely in the merchant marine of Great Britain, over 6,000 of these furnaces now being in use in marine boilers and giving perfect satisfaction. This furnace is made of a single plate and not of plates welded together. Tested to destruction a Purve's furnace stood a pressure of 1,145 pounds to the square inch before collapsing and at a pressure of 1,050 pounds to the square inch showed no signs of weakening which ought to be pressure enough to satisfy anyone as to their safety.

S. H. H., Marine Engineer.

Members of the E. M. B. A. are requested to notify the secretary of the lodge to which they belong of their appointments, in order that the grand financial secretary may prepare a directory for the whole association. There will be an alphabetical arrangement of names as well as an arrangement by numbers.

Launch of the *Masaba*.

The *Masaba*, the second Minnesota boat built by the Chicago Ship Building Company was launched, Thursday. One end of a timber was thrown up and made a six inch crack in one of the plates. The high flown description of the launch of the first steel boat on Lake Michigan, put forth by the Chicago papers, was mentioned in the REVIEW, as the impression was created that there was only one steel boat on the lakes. These same papers air their sensationalism a second time over this launch. It is unfortunate that commercial news and criminal news are handled by the same reporter on some newspapers and the same imaginative coloring is given to both. The report demolishes a pier and describes a breaking up of the ways that could only be caused by an earthquake. Here is some of the flowery language, "The huge bulk tottered unsteadily, then, with a frightful crashing of timbers and a mighty roll, struck the water." A Milwaukee paper takes the Chicago paper's account and pads it out with stuff like this: "Workmen ran hither and thither with large bunches of oakum and waste." The only serious thing about the launch was the ducking of a dozen uninvited spectators. It is supposed that the reporter was one of these spectators and losing no time in starting home supplied an account of the launch from his fertile brain.

Notices to Mariners.

The light-house board gives notice that on or about April 30, 1891, a fixed red light of the fourth order will be exhibited from the structure recently erected near the outer end of the north pier at Portage lake harbor, east side of Lake Michigan. The light will illuminate 270 degrees of the horizon. The focal plane will be 32 feet above the top of the pier and 40 feet above the level of the lake, and the light may be seen in clear weather from the deck of a vessel 10 feet above the lake 12½ statute miles. The structure is a square wooden tower, painted white, surmounted by a black iron lantern, with brown parapet. The lower part of the tower is open framework; the upper part is inclosed for a watch-room. The approximate position of the light-house, as taken from chart No. 62 of the survey of the northern and northwestern lakes, is: Latitude, north, 44° 21' (30"); longitude, west, 86° 16' (00"). Manistee light-house, Michigan, bears approximately S. S. W. 3/8 W. (S. 26° W.) true, distant 8½ statute miles.

On the same date, a fixed red light will be exhibited from a lens lantern, suspended 23 feet above lake level, from a post set at the outer end of the north pier, at the entrance to Portage lake harbor, Lake Michigan. The light will be visible, in clear weather, 2 or 3 statute miles, and will form, with the main light, a range showing the direction of the piers and the course to be followed in entering the harbor.

The Canadian minister of marine gives notice that the following charts of the Georgian bay and north channel of Lake Huron, issued by the admiralty, and containing the results of the recent hydrographic survey by Staff Commander J. G. Boulton, R. N., can be purchased from the publisher, J. D. Potter, 31 Poultry, London, E. C., England, or from the chart agent, Charles Potter, 31 King Street East, Toronto: No. 906, entrance to Georgian bay, etc.; No. 907, Georgian bay to Clapperton island; No. 908, Clapperton island to Mildram bay; No. 910, Clapperton channel; No. 1,507, St. Joseph channel; No. 1,213, Collins inlet to McCoy islands, N. E. coast of Georgian bay; No. 1,214, Cabot Head to Cape Rich; No. 1,408, Collingwood and approaches. Sailing directions accompanying the above, under the name of the "Georgian Bay and North Channel Pilot," with supplement, can be had gratuitously from the chart agent, as well as from the department of marine, Ottawa.

Lake Carriers Will Employ an Envoy.

The committee appointed by the Lake Carriers' Association to consider the employment of counsel at Washington reported favorably on the matter at a meeting held in Buffalo, Saturday. The committee also advised that the association be represented before committees by the secretary and delegations of vessel men, and that on special occasions a resident counsel be employed at Washington. It is expected that the Atlantic coast and Western rivers associations would help bear the expense of employing such counsel and the secretary was directed to correspond with them. A live representative from each lake district would obviate the necessity of employing such counsel, for a man who has the inside knowledge of legislation is worth three who have to wait until a bill is introduced before they know anything about it.

TO SHIP-BUILDERS: OFFICE OF THE
Light-House Board, Washington, D.C., April
7, 1891.—Proposals will be received at this office
until 2 o'clock p.m. of Tuesday, the 5th day of
May, 1891, for furnishing the materials and labor
of all kinds necessary to construct the Light-
House Tender *Amaranth*, for service on the
Northwestern Lakes. Plans, specifications,
forms of proposal, and other information may
be obtained on application to this office. The
right is reserved to reject any or all bids, and to
waive any defects. D. B. HARMONY, Rear-
Admiral, U. S. Navy, Chairman. Apr. 16

TO SHIP-BUILDERS. OFFICE OF THE
Light-House Board, Washington, D. C.,
March 26th, 1891. Proposals will be received at
this office until 2 o'clock p.m., of Thursday, the
23d day of April, 1891, for furnishing the
materials and labor of all kinds necessary to
construct and deliver the United States light-
house tenders *Lilac* and *Columbine*. Plans,
specifications, forms of proposal, and other in-
formation may be obtained on application to
this office. The right is reserved to reject any
or all bids, and to waive any defect. D. B.
HARMONY, Rear-Admiral, U. S. Navy, Chair-
man. April 9.

PROPOSALS FOR DREDGING. U. S. En-
gineer Office, Grand Rapids, Mich., March
28, 1891. Sealed proposals, in triplicate, will be
received at this office until noon of April 28, 1891,
for dredging in Manistee River and Harbor,
Mich. The quantity of material to be removed
is between 50,000 and 60,000 cubic yards. Atten-
tion is invited to Acts of Congress approved
February 26, 1885, and February 23, 1887, vol. 23,
page 332, and vol. 24, page 414, Statutes at Large.
The government reserves the right to reject any
or all proposals. For information, specifications,
etc., address as above. WILLIAM LUDLOW,
Major, Corps of Engineers, Bvt. Lieut. Col.
U. S. A. Apr. 23

"THE MICHIGAN"

ISSUES POLICIES ON HULLS AND CARGOES
ON FAVORABLE TERMS. IT IS FOR THE
INTEREST OF THE OWNERS OF THE LAKE
MARINE TO BUILD UP A HOME COMPANY
BY THEIR PATRONAGE.

AGENCIES AT PRINCIPAL PORTS.

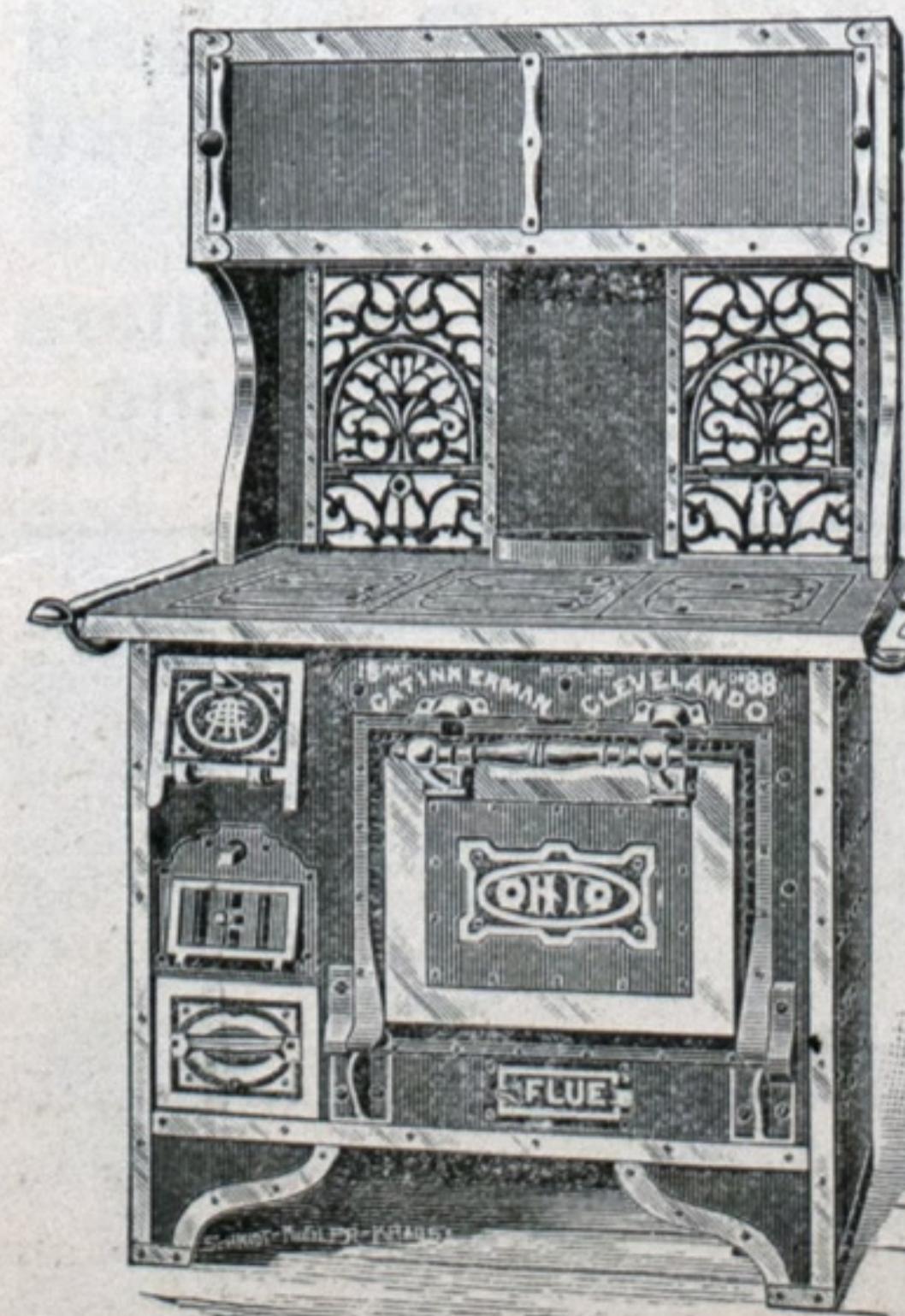
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RESPECTFULLY SOLICITED.

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Buffalo Passenger	10 40 AM	10 45 AM
Chicago Passenger	9 20 PM
WESTWARD.	Arrive.	Depart.
Chicago Passenger	6 30 AM
Fostoria Passenger.....	5 06 PM	5 11 PM

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ERIE RAILWAY.

	Arrive.	Depart.
Youngstown Accommodation.....	*7 15 AM	*6 05 AM
New York and Pittsburg Express	*5 15 AM	*8 10 AM
Pittsburg Accommodation.....	*12 45 PM	*11 25 AM
New York & Pittsburgh Limited.....	*9 55 AM	*2 55 PM
Mantua Accommodation	*7 20 PM	*4 20 PM
Youngstown Express.....	*9 10 PM	*6 00 PM
New York & Pittsburg Express.....	*6 50 PM	*11 00 PM

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T. H. LARKE, Commercial Agt., 327 Superior St., DULUTH. C. E. HIBBARD, Gen'l. Pass. & Tkt. Agent, MARQUETTE, MICH.

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TUG MONARCH, Engine Compound, Cylinder 16 and 30 inches diameter, 30 inch

Stroke, Steam Pressure All wed, 125 pounds.

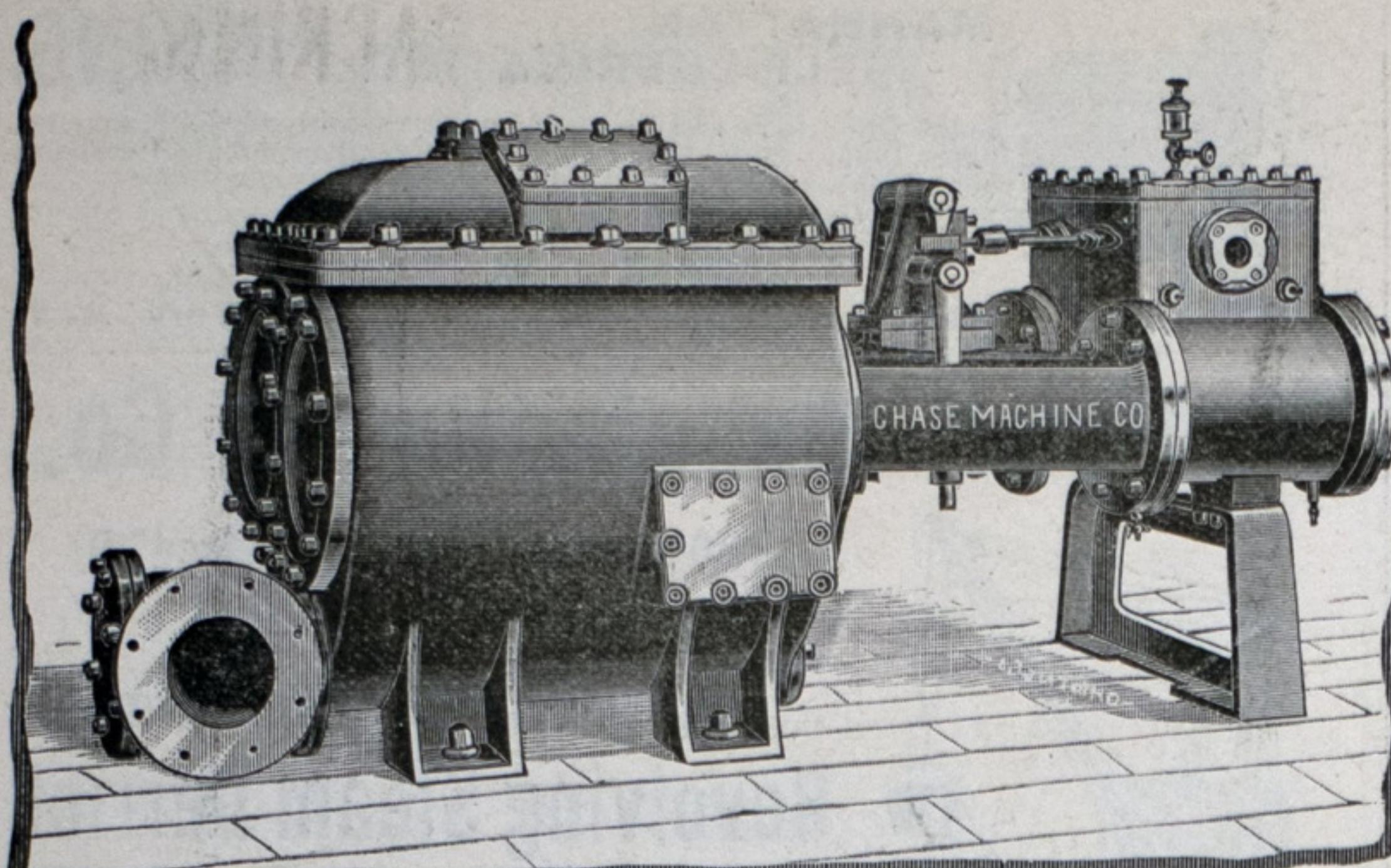
TUG DELTA, Cylinder 20 b / 22, Steam Pressure Allowed, 105 pounds.

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CENTRIFUGAL PUMPS, Seven and Fourteen Inch Suction.

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Giving Dimensions and Location of all Important Docks, for Information of Owners and Masters.

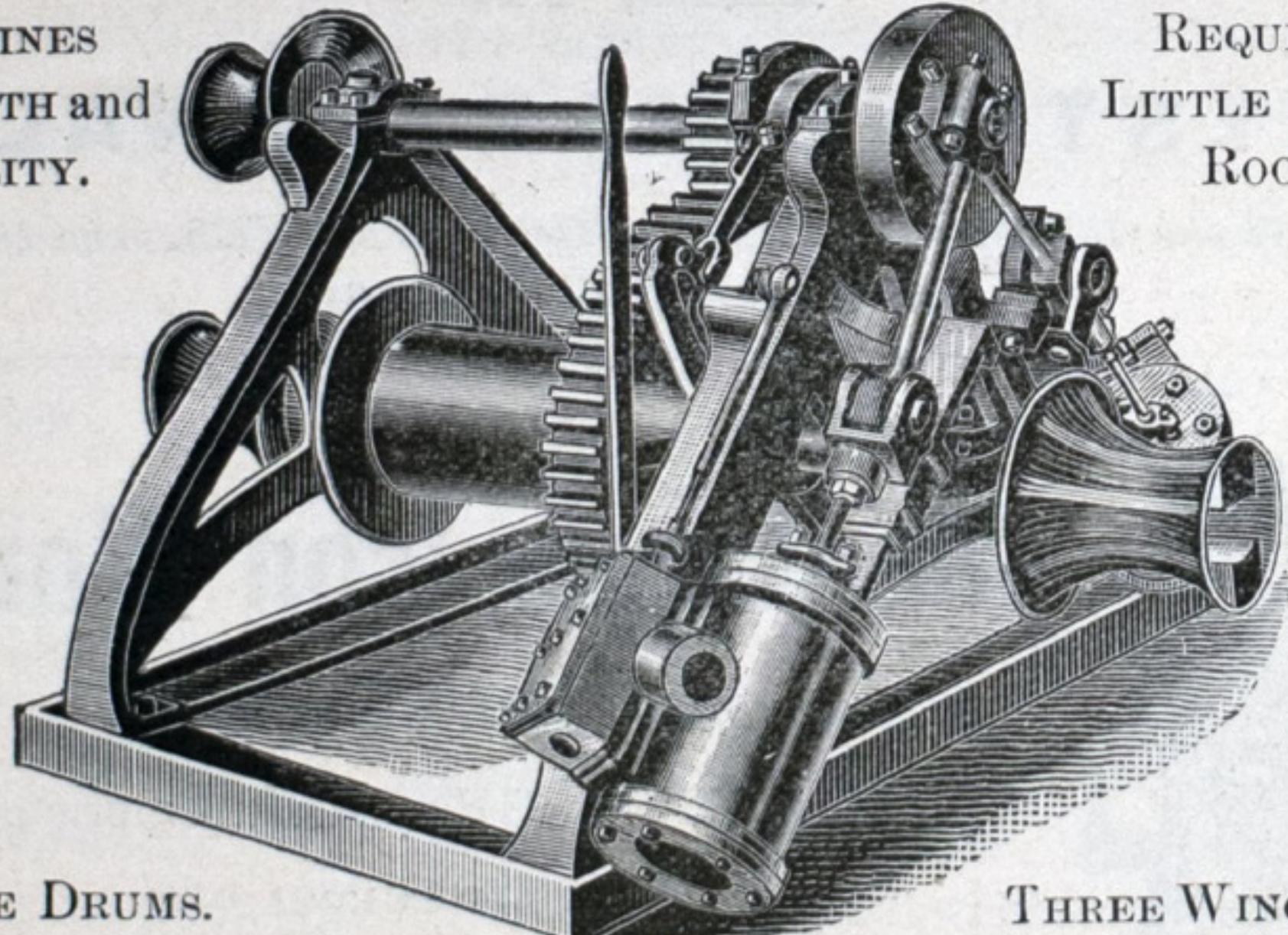
DOCK.	LOCATION.	Length on Keel Blocks.	Width of Gate.	Depth of Water on Sill and Keel Blocks.	SPECIAL ADVANTAGES.	FOR NIGHT SERVICE.
Bay City Dry Dock & Ship Y'd Co.	Bay City, East Side River,....	310	42 1/2-43 1/2	13-14	Nearest Dock to Mackinaw and Sault Ste. Marie.	Call Foreman Edward Trahan, cor. McEwan and Water Sts.
Cleveland Dry Dock Co.	Cleveland, So. Side River Bed,	312	40 ft. 8 in.	11 1/2-12	Nearest Dock to Harbor Entrance.	Watchman at Dock. Manager, 75 Duane St. Foreman, 126 Fulton
Clark Dry Dock Co.	Detroit, Lower Docks,.....	360	{ 68 42	{ 10 1/2 11 1/2 { 9 upper 10 end.	.....	Watchman at Dock will call Superintendent.
Detroit Dry Dock Co.	Detroit, Upper Docks,.....	220	{ 42	{ 8	.....	Watchman. Will call Sup't.
Ship Owners' Dry Dock Co.	Cleveland, Head Old River Bed	239	{ 56	{ 12	.....	Call Watchman.
Union Dry Dock Co.	Buffalo,..... { Upper, Lower,	300	50	18	Depth of water enables loaded vessels to dock here.	Call watchman.
Wolverine Dry Dock Co.	Pt. Huron, near Water Works.	343	{ 48 44	{ 10 1/2 15 1/2	Three steam derricks connected with each dock.	Call watchman.
R. Mills & Co.	Buffalo, N. Y.	200	40	14	Dock Waterlogged Vessls.	Watchman at Dock, nights and Sundays to call foreman.
		280	{ 40	{ 12	Boom Derricks.	Call Watchman.
		320	{ 46	{ 13 1/2		

THIS DECK HOIST

WORKS WITH LINK MOTION,
HAS INCLINED CYLINDERS,

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"No Boat Properly Fitted Out Without Them."

Use only Machines that are RELIABLE; that have PROVED themselves IN ACTUAL SERVICE. 100 Boats already use them.

Cleveland, O., Jan. 6, 1891.

MILLER CHEMICAL ENGINE CO., Room 4, Bratenahl Blk.
GENTLEMEN: I had occasion on the 13th of November to use your Extinguisher on board the steamer Queen of the West, of Cleveland. A large lamp used for signal purposes aft, fell about twenty feet and set fire to the whole roof of the engine room. I do not know what the consequences would have been but for the prompt and effectual way in which your extinguisher put out the fire, as the wind was blowing hard and a heavy sea running at the time. I heartily recommend your machine as a fire extinguisher on all classes of steamships. Yours truly,
JOS. A. NICOLSEN, Master Str. Queen of the West.

182 24th Street,

MILLER CHEMICAL ENGINE CO. Detroit, Mich., Jan 12, 1891.
DEAR SIRS: Going up Lake Huron last fall during a heavy gale of wind and a big sea running, a fire broke out in one of the rooms of the steamer Fayette Brown, through the accidental upsetting of a lamp among some papers, and had gained considerable headway before discovered. By the prompt use of one of your Chemical Engines it was quickly subdued, and I think there was less than a pint of the fluid used. Have no doubt the fire would have given us lots of trouble without some such prompt and easy way of extinguishing it. Since that time I do not think a steamboat properly fitted out without the Miller Chemical Engine.

Yours truly, C. H. BASSETT, Master Str. Fayette Brown.

Powell's Signal Oilers.

INCOMPARABLE FOR
ENGINES AND
DYNAMOS.

Convenient to fill.

Easy to regulate.

Flow of oil can be instantly shut off by simply moving the lever down—without disturbing the adjustment.

Also made Double and Triple Sight feed for Marine Engines.

Your dealer can supply you. Manufactured by
The Wm. Powell Co.,

CINCINNATI, O.



PROPOSAL FOR EXTENSION OF BREAK-

water, at Buffalo Harbor. U. S. Engineer Office, Buffalo, N. Y., March 5th, 1891. Sealed proposals, in duplicate, for furnishing materials and building about 500 feet, more or less, of extension of the Breakwater at Buffalo Harbor, N. Y., will be received at this office until 2 p.m., on the 4th day of April, 1891, and opened immediately thereafter in the presence of bidders. The attention of bidders is invited to acts of Congress, of February 26th, 1885, and February 23d, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. Preference will be given to articles of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Specifications, general instructions to bidders and blank forms of proposal, or necessary information, will be furnished on application to this office. The United States reserves the right to reject any or all proposals. AMOS. STICKNEY, Major of Engineers, U.S.A., Apr. 2.

CON. STARKE.

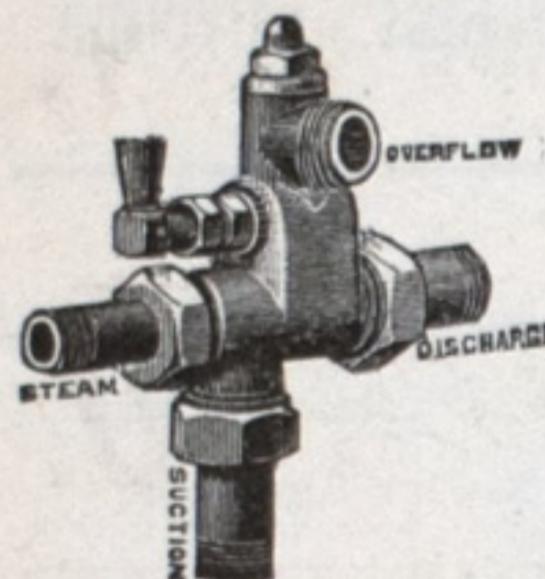
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Works from 25 to 140 lbs. Pressure and
Higher if so ordered.Hot pipes, jar or other motion will not effect it. A trial will
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Write for prices. MANUFACTURED BY

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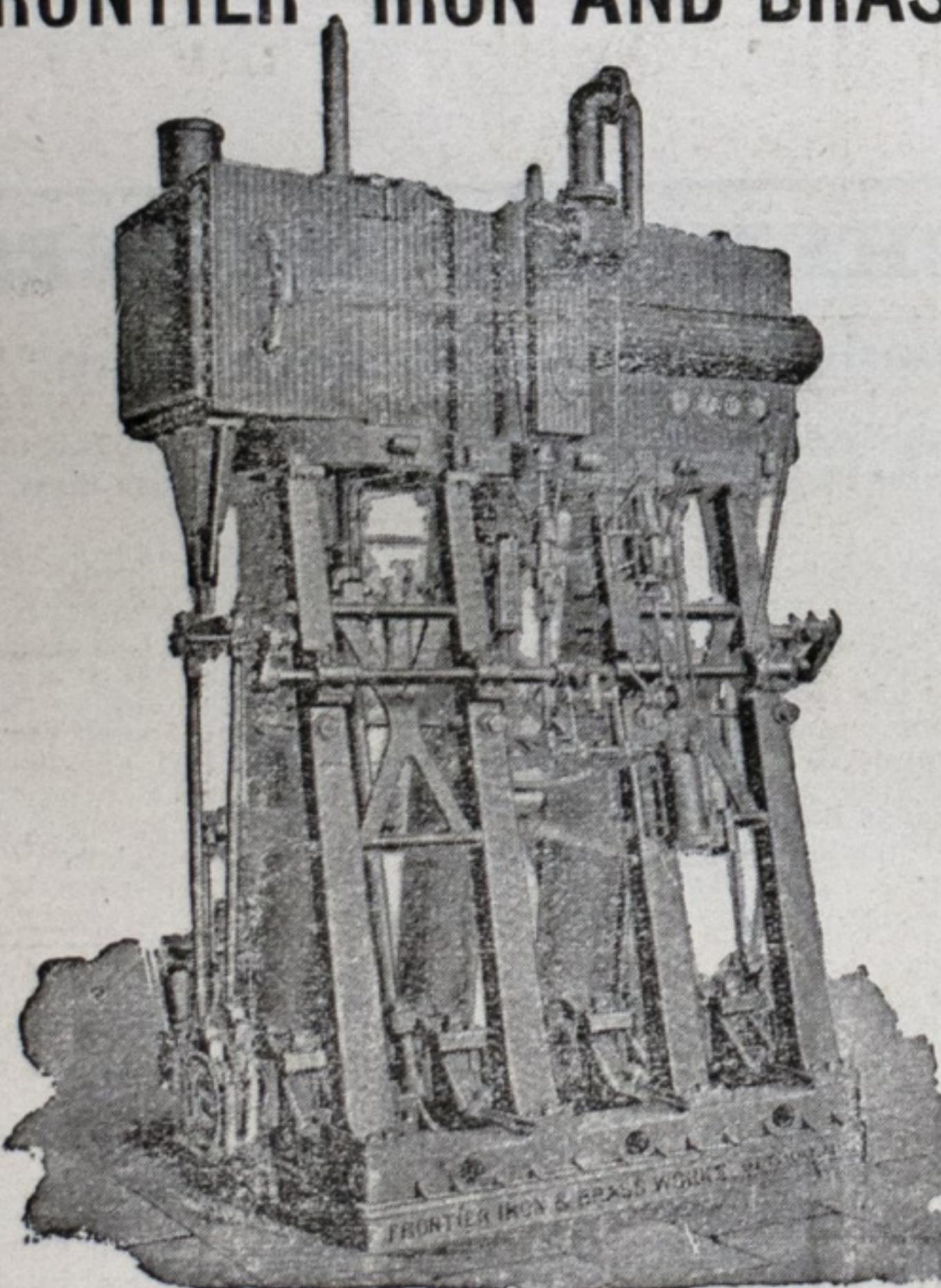
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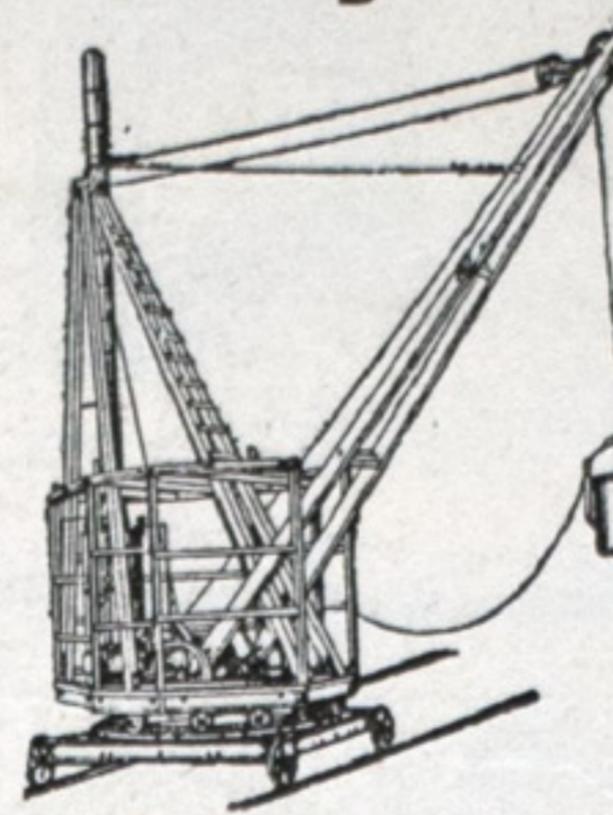
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The National Automatic Injector.

For Marine Boiler Feed it is superior to any other. Our double valves in overflow makes it most perfect, automatic and reliable; will lift with hot suction pipe, and will work water 140 hot. All parts can be duplicated without sending Injector to factory. Can give best of testimonials from engineers that are using them. Will send Injector to any reliable party on a guarantee. Give the National a trial, then decide for yourself if you want it or not. We also make the National Ejector. Send for Descriptive Price List. Agents wanted in every locality. Prices always the lowest.

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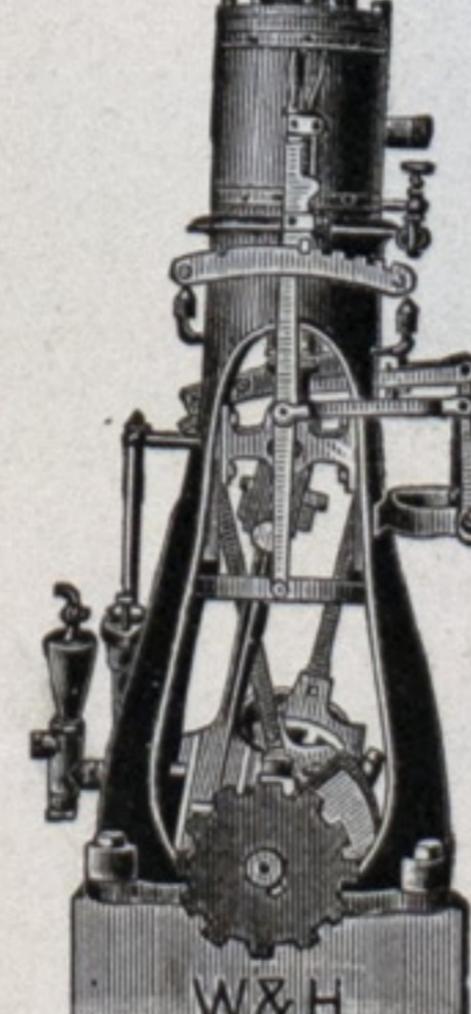
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